

REMARKS

This paper responds to the Office Action mailed on June 1, 2005, and the references cited therewith. Claims 1, 2, 5, 8 and 9 are amended and claims 37-43 are added such that claims 1-14 and 37-42 are now pending in this application.

Double Patenting Rejection

Claims 1-14 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,666,965. A Terminal Disclaimer in compliance with 37 CFR 1.321(b)(iv) is enclosed herewith to obviate this rejection. Applicant respectfully submits that the Office Action has not made a prima facie case of judicially-created obviousness-type double patenting but is supplying the terminal disclaimer to expedite prosecution.

§112 Rejection of the Claims

Claims 2, 5 and 8-14 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has amended claims 2 and 5 to address the pending § 112 rejection and claim 9 has been amended for purposes of clarity. Applicant notes that claims 2, 5 and 9 are not amended in order to overcome any prior art.

As part of making the rejection, the Examiner state at page 2 of the Office Action that “it s unclear what Applicant intends by the recitation “**microbeads**.” Applicant notes that the term “microbeads” is a term that is commonly used in the filtration art. In addition, the term is used over 40 times in Applicant’s specification as well as identified with reference to FIGS. 1 and 2 (i.e., microbeads 14 and microbeads 58).

Reconsideration and allowance of claims 2, 5 and 8-14 are respectfully requested

§102 Rejection of the Claims

Claims 1 and 6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Sutphin (U.S. 4,231,863). A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *M.P.E.P.* '2131.

To anticipate a claim, a reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter. *PPG Industries, Inc. V. Guardian Industries Corp.*, 75 F.3d 1558, 37 USPQ2d 1618 (Fed. Cir. 1996). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Applicant respectfully submits that Sutphin does not appear to describe “a chamber that includes a hydraulic loading area extending across the entire chamber, the hydraulic loading area being divided into a plurality of cells with smaller hydraulic loading areas” as recited claim 1. Applicant notes that the conduits 12 disclosed in Sutphin do not extend across the entire reactor 10 (see FIGS. 1 and 2 of Sutphin). Applicant respectfully requests that the Examiner cite with particularity where Sutphin describes (i) a chamber; (ii) a hydraulic loading area that extends across the entire chamber; and (iii) where the hydraulic loading area is divided into cells.

Claim 6 depends from claim 1 such that claim 6 incorporates all the limitations of claim 1. Therefore, Sutphin does not appear to teach or suggest claim 6 for the reasons provided above with regard to claim 1.

Reconsideration and allowance of claims 1 and 6 are respectfully requested.

§103 Rejection of the Claims

Claims 2-5 and 7-14 were rejected under 35 U.S.C. § 103(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Sutphin (U.S. 4,231,863). Claims 2-5 and 7-14 are alternatively rejected under 35 U.S.C. § 103(a) as obvious over Sutphin (US 4,231,836) and Geiser (either of US 5,413,749 or 6,391,448). In order to establish a prima facie case of obviousness, the references must teach or suggest all the claim elements. See M.P.E.P. § 2142 and *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991).

Applicant respectfully submits that Sutphin and/or Geiser do not appear to describe “a chamber that includes a hydraulic loading area extending across the entire chamber, the hydraulic loading area being divided into a plurality of cells with smaller hydraulic loading areas” as recited claim 1. As discussed above, Applicant notes that the conduits 12 disclosed in Sutphin do not extend across the entire reactor 10 (see FIGS. 1 and 2 of Sutphin). Applicant respectfully requests that the Examiner cite with particularity where the cited combination

describes (i) a chamber; (ii) a hydraulic loading area that extends across the entire chamber; and (iii) where the hydraulic loading area is divided into cells.

The Examiner appears to acknowledge at page 3 and page 4 of the Office Action that Sutphin does not teach or suggest all of the limitations of the claims by stating”

“The specific dimensions, density, depth and hydraulic loading area, absent a showing of unexpected results specifically associated therewith, are submitted to be met by Sutphin, which appears to be silent with respect to these parameters.” [Emphasis Added].

Applicant can not find in Sutphin and/or Geiser any teaching or suggestion of:

- i. “the microbeads within each cell ~~have~~ having a depth between 15 cm and 60 cm” as recited in claim 5;
- ii. “each cell has a hydraulic loading area less than 2.3 square meters” as recited in claim 7; or
- iii. “a chamber that includes a hydraulic loading area divided into a plurality of cells such that each cell has a hydraulic loading area less than 2.3 square meters” as recited in independent claim 8.

The Examiner appears to explain these missing limitations by stating at page 3 and page 4 of the Office Action that “[a]lternatively, these parameters, absent a showing of unexpected results specifically associated therewith, are submitted to be parameters that would have been routinely optimized by one of ordinary skill in the art.” Applicant respectfully traverses the assertion.

Applicant respectfully submits that Applicant’s specification identifies that hydraulic loading areas which are too large inhibits the filtering done by the microbeads (see Applicant’s spec. at page 2, lines 9-14). In addition, Applicant’s specification at page 2, line 23 through page 3, line 2 identifies “a hydraulic loading area that is divided into a plurality of cells such that each cell has a hydraulic loading area less than 2.3 square meters.” Applicant’s specification further notes that dividing the hydraulic loading area in a large chamber into cells with smaller hydraulic loading areas (i.e., less than 2.3 square meters) “promotes efficient filtering by bacteria that grows on the microbeads in each cell.” Since the parameters that are recited in claims 5, 7, and 8 (among other claims) provide an unexpected result as outlined in the specification, the parameters should be considered as providing a clear distinction over the prior art.

Claims 2-5, 7 and 9-14 depend from respective claims 1 and 8 such that claims 2-5, 7 and 9-14 incorporate all of the limitations of claims 1 and 8. Therefore, Sutphin does not appear to teach or suggest claim 2-5, 7 and 9-14 for the reasons provided above with regard to claims 1 and 8 plus other elements in the claims.

Applicant also can find in Sutphin and/or Geiser any teaching or suggestion of “a plurality of nozzles positioned above the microbeads within the chamber to supply water to each cell in the chamber” as recited in claim 9. Applicant respectfully requests that the Examiner cite with particularity where the cited combination describes a plurality of nozzles positioned above the filter media.

Reconsideration and allowance of claims 2-5 and 7-14 are respectfully requested.

Amendment to Claim 8

Applicant notes that the amendment to claim 8 removes a limitation from claim 8 such that further searching would not be required in order to examine claim 8 (or 9). Therefore, if the Examiner makes a new rejection of claim 8 (or 9), then the next Office Action should not be made Final.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.


Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 27th day of June, 2005.

Name

Signature